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# PREVALENCE OF CHRONIC PAIN AND ITS SPECIFIC TYPES DIAGNOSES IN BENEFICIARIES OF TWO COMMERCIAL INSURANCE COMPANIES IN TBILISI, GEORGIA

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## ქრონიკული ტკივილის სპეციფიკური ტიპების დიაგნოზების გავრცელება ორ კომერციულ სადაზღვევო კომპანიაში, ქ. თბილისში, საქართველო

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### რეზიუმე

სტატია ეხება ქრონიკული ტკივილისა და მისი ცალკეული ტიპების დიაგნოზების გავრცელებას თბილისში, ორი კომერციული სადაზღვევო კომპანიის ბენეფიციარებში. ქრონიკული ტკივილის ორწლიანი პრევალენსი 3.2%-ს შეადგენს. საკვლევ პოპულაციაში დომინირებს წელის ტკივილი, სახსრების ტკივილი და თავის ტკივილი. ქრონიკული ტკივილის ყველა სპეციფიკური ტიპი სქეს-დამოკიდებული აღმოჩნდა. ქალებს ქრონიკული ტკივილი თითქმის ორჯერ უფრო ხშირად აღენიშნებოდათ, ვიდრე მამაკაცებს. ყველაზე მაღალი პრევალენტობით გამოირჩევა ძვალ-კუნთოვანი სისტემის ტკივილი. პირველ ადგილზეა ქვემო წელის ტკივილი.

**Background:** Pain is one of the main determinants of the burden of disease around the globe [14,3]. The prevalence of pain in low-income and middle-income countries is consistent with Global Burden of Disease data, with higher rates in the elderly general population and workers than in the general adult population [10]. Pain is a health problem, with a need for local understanding of its prevalence, progression, and main determinants, in which setting-specific consensus is needed to identify and implement the most appropriate care pathways and treatments for the population of interest [14]. Pain is global public health priority [4]. Though a number of studies have been done on chronic pain in Georgia, no data were provided on the individual types of chronic pain in the pain population, in general and among working population in particular.

**Goal and Objective:** We aimed to determine prevalence of individual types of pain diagnoses in adult working population in Tbilisi, Georgia.

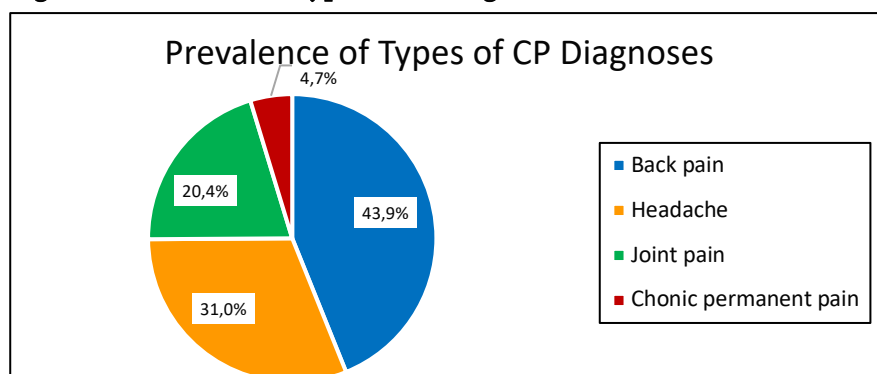
**Study design:** Retrospective analysis of non-randomly selected two commercial insurance companies' databases.

**Methods:** Univariate analysis of the databases was carried out in two commercial insurance companies. Pain codes of the International Classification of Diseases (ICD 10) were used to select patients' pain diagnoses. Two-year crude period prevalence of chronic pain and point prevalences for the specific types of pain were calculated for 2023-2024 years. Data were processed at the significance level  $p \leq 0.05$ .

**Results and Discussions:** The aggregated number of patients in both companies composed 953619 patients. Of those 57.7% were women and 42.4% - males. The two-year period prevalence of CP was 3.2% ( $p=0.0315$ ). During the analyzed period number of CP patients increased by 23%. The majority of CP patients were females (64.2%) and two-year period CP prevalence among women patients was higher (3.6%) compared to males (2.5%). Musculoskeletal pain was identified to be the prevalent cause of patients'

referral to medical care. Among CP conditions, back pain ranked first followed by headache and joint pain (Fig.1).

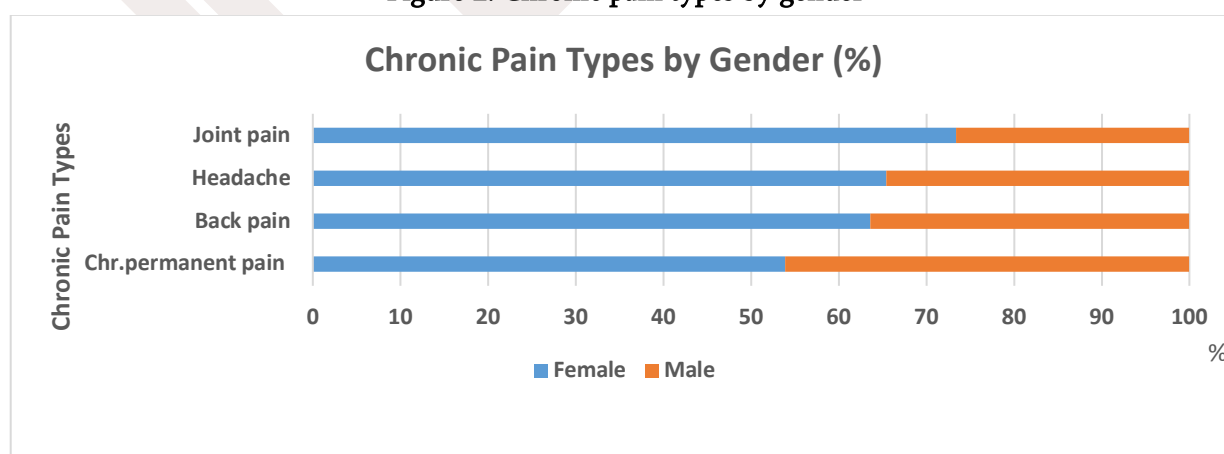
**Figure 1. Prevalence of types of CP diagnoses**



Our findings are consistent with other study results: A systematic review and meta-analysis on the prevalence of chronic pain in low-income and middle-income countries showed that the prevalence of any type of chronic pain was 33% (95% CI 26–40) in the general adult population, and 35% (4–88) in workers; lower back pain was 18% (14–24), headache 39% (27–53); chronic daily headache 5% (3–7), musculoskeletal pain 26% (19–33), joint pain 14% (11–18), and widespread pain 14% (9–22) [10,15]. Among all conditions, musculoskeletal pain has been identified as one of the top 5 causes of disability-adjusted life-years [3] and low back pain has become known as one of the top causes of years lived with disability worldwide [17]. Murphy KR et al. grouping 6,575,999 patients with ICD-9 pain diagnoses in US determined the prevalence of 7 specific pain diagnoses, of which back pain (CBP) dominated (74.7%) among others and its prevalence ranged from 18.5% to 22% [12]. In Brazil the prevalence of CBP was 20.7% among 1300 study participants [16]. In Japan pain occurred most frequently in the low back (65%), neck (55%), shoulder (55%), and knee (26%) [13] and chronic migraine was 10% (5–20) [10].

Our study showed that in all types of CP women were more likely to have all types of pain than men (Fig.2). Diversity in gender was statistically significant in all types of CP ( $z = 3$  within 2.5–7.0). Male-female ratio across the types of CP ranged from 1:1.2 (chronic permanent pain) to 1:1.9 (headache). Ratio was almost similar in the cases of back pain (1:1.7) and joint pain (1:1.8).

**Figure 2. Chronic pain types by gender**



Several studies showed high prevalence of chronic pain in women population, over a half of the patients were presented with females [12,5,13,9,1,2]. Women were also slightly more likely to have back pain compared with men [12,13,16,17] and the working-age population was most greatly affected by the burden of LBP [17]. Previous studies also showed that women are more likely to develop CBP than are

males [6,7,11], which is also consistent with our findings. Though one of the factors significantly associated with CBP was female sex [16], the variable sex interacted significantly only with age and physical inactivity. In other words, the association between older age group (60 years or older) and CBP was found only in females, whereas the association between physical inactivity and CBP was significant only in males and no longer observed after adjustment [16]. In our study we found that the gender variable was a predictor of chronic pain. Odds ratio was 1.42 (95% CI was (1.39, 1.46), statistically significant at  $p \leq 0.05$ ).

**Conclusion:** Chronic pain (CP) is a prevalent disease in the country. The two year period prevalence was 3.2%. Low back pain, joint pain, and headache dominated. Female population were more likely to develop CP as well as the specific types of CP.

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## **SUMMARY**

Chronic pain (CP) is a prevalent disease in the country. The two year period prevalence of CP was 3.2%. Low back pain, joint pain, and headache dominated in the study population. Female population were more likely to develop CP as well as the specific types of CP. Females were almost twice as likely to have CP as compared to males. Working population is most greatly affected by the burden of CP and other specific types of CP.

**Keywords:** chronic pain, prevalence, insurance companies, Georgia